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**TRIBOROUGH BRIDGE
AND TUNNEL
AUTHORITY LINKS
THE FIVE BOROUGHES,
PARKS, BEACHES
AND SUBURBS**

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appeared in a condensed
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March 7, 1948**

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NEW YORK RECLAIMS ITS MAGNIFICENT WATERFRONT

Uncontrolled exploitation, haphazard usage, pollution, sea and river slums, obsolete piers, docks and marginal ways give way to plan, order, modernization and progress.

By ROBERT MOSES

FOR RECREATION RESIDENCE AND COMMERCE

Measured by shelter, protection, depth of water, shorefront mileage, variety and beauty of shore and nearby countryside, opportunities for recreation, sites for residence and commerce, New York is the peer of American harbor cities. San Francisco is a close second, excelling, however, in sheer beauty and, thanks to the Japanese current, in all-year-round climate. Most of the cities which rank as seaports are in fact river towns miles from the main — like Seattle, Portland, New Orleans and Philadelphia. San Francisco was discovered from the land, has only a century of history as against New York's 300 years, but seems older and more rooted in tradition.

Of all explorers and discoverers, I envy most Henry Hudson and his first view of the Lower and Upper Bay, Jamaica Bay, the East River, and the Hudson and Harlem Rivers of our own New York. Manhattan may have been bought for only \$24 and some gaudy trinkets in those

above CORLEARS HOOK . . . Showing the East River waterfront reclamation south of the Williamsburg Bridge. Also shown is Vladek Houses in the lower right-hand corner.

below SHORE PARKWAY, BROOKLYN . . . The entire shorefront from Gravesend Bay to Owls Head has been extended and developed with an esplanade along the seawall and with play facilities and landscaping bordering the Shore Parkway. The Fort Hamilton Avenue grade separation structure is in the foreground.



days, but the harbor and its tributaries were even then beyond price.

Like England of old, time and the ocean and some guiding star in high cabal made our greater City what it is and these forces combined with native enthusiasm and shrewdness, brains and energy drawn from the American hinterland and from the four corners of the globe and the Seven Seas, will preserve our people in health and prosperity, magnetize commerce, and make it the unchallenged capital of the world.

All this is neither a pipe dream nor a lead pipe cinch. Our waterfront was, through past neglect, indifference, stupidity, corporate and individual selfishness, and planless and feeble government, allowed to degenerate for so many years that reclamation became difficult and expensive. And yet tremendous headway has been made in the last twenty years, so much that not even professional sceptics need longer despair of the full realization of our program within the next decade. I think it may be stated without fanfare or frantic boasting that no other city, faced with anything like our problems, has set about with so much boldness and determination to meet and down them.

Most, but by no means all, of the marginal waterfront belongs naturally to the public and should remain or be restored to public or quasi-public ownership. It is infused with a paramount and inalienable public interest. It should, however, in substantial part be leased to and developed on proper terms by private enterprise, and strictly public developments on the margin should be so planned as to encourage private and even speculative improvements back of and dependent upon them.

Let us look now at the record. New York has 202 miles of boundary water, 17 on the open ocean which beats the sands of Coney Island and the Rockaways, 32 on the Upper and Lower Bays of the Harbor beyond the Narrows through which all ocean-going vessels must pass, 42 on the salt waters of Jamaica Bay, 92 on the Hudson, East River, Harlem River and Long Island Sound, and 19 on the Arthur Kill and Kill van Kull which separate Staten Island and New Jersey. These stretches do not include 17 miles along inland rivers such as the Bronx and Hutchinson and creeks off the main water-

front like Newtown and Gowanus, which accommodate a prodigious tonnage out of all proportion to their length, breadth and dockage area.

As the cities, towns and villages, which were consolidated just half a century ago into Greater New York, were united and welded together by improved transportation and discovered increasing common interests, the necessity for an entirely new plan and program became more and more obvious. The old town lands of Gravesend, including Coney Island, had been alienated and sold through the connivance of promoters and local politicians. Some of the shorefront was recaptured for public beaches by con-



demnation at terrific expense. A city-owned boardwalk was built at the line of high tide but back of it penny catching gadgets were rapidly degenerating into a seaside slum when, in the first LaGuardia administration, we stepped in to widen the beach and move back the boardwalk, wipe out the worst junk back of it, and pave the way for a magnificent oceanarium which will be the great center of Coney Island in the future.

The Rockaway Beach story is much the same. Here Jacob Riis Park has been developed, and to the east the shacks and stands back of a mile and a half of boardwalk have been turned out. A ribbon park and the entire barrier has been made ac-

cessible by the Marine Parkway Bridge and reconstructed Cross Bay Parkway, by the elevation of the railroad which runs through the peninsula and building of an expressway underneath it. We picked up distressed properties back of the boardwalk by foreclosure and these will be added to the recreation and parking areas.

Jamaica Bay, once laid out as an ocean terminal with docks, wharves and a network of manufacturing and rail facilities totally unnecessary and inaccessible which would have ruined our greatest natural resource for residence, recreation and conservation, is now largely a park flanked on the north by the Belt Parkway and two great airfields, and ready for the building of beaches and

left **BRONX-WHITESTONE BRIDGE** . . . In the background, to the right of the Bronx Approach to the bridge is the proposed Ferry Point Park beach development. The cove and land under water will be reclaimed with sand fill and the area transformed into a bathing beach with appropriate facilities. This will take the load off over-crowded Orchard Beach and serve the south and central Bronx.

right, above **UPPER HUDSON IMPROVEMENTS** . . . Looking north, from the Cloisters in Fort Tryon Park, gift of John D. Rockefeller Jr., toward Inwood Hill Park, the Henry Hudson Parkway and the Palisades. The top of the Palisades has recently been acquired and deeded to the Palisades Interstate Park by Mr. Rockefeller to protect the view from New York and to provide a wide parkway from George Washington Bridge north, with picnicking places and overlooks for the people of two states.

right, center **IDLEWILD AIRPORT ON JAMAICA BAY** . . . 4,900 acres of meadow, marsh and land under water reclaimed by dredging sand from Jamaica Bay and pumping it on the airport site. A total of 65 million cubic yards of sand fill were required to complete the project.

right, below **LOWER HUDSON** . . . Looking south from the Cloisters over the expanded and improved Fort Washington Park and Henry Hudson Parkway. The New York Central freight tracks which for years split the park in two and carried cattle and smells to slaughter houses were buried as part of the plan.



harbors for boats and fishermen as soon as sewage pollution is eliminated. The same thing has happened at Marine Park between Jamaica Bay and Coney Island where we are dredging, filling and reclaiming some two thousand acres, the largest single park area in the City.

On Staten Island beyond the new City piers another great bay-front park is being built at Great Kills by one of the most complicated filling and reclamation projects ever undertaken by the City. Here again sewage pollution is our only remaining problem. Sanitation filling will shortly be transferred from Great Kills to Fresh Kills on the Arthur Kill, and the operation there will reclaim an immense area for highways, parks, airfields, and manufacturing.

On the lower Hudson, the East River and South Brooklyn, great parkways and expressways are being extended, and we are actively working on a plan for new piers and a new West Side Market. Three plans will be entertained, one proposed by the State World Trade Corporation, one by the Port of New York Authority, and one by the City itself. A decision on program, financing and the agency to be responsible will be made this spring. Incidentally, the Army Engineers report that the 1946 exports of the Port of New York showed a loss of 47 per cent against the previous year, where Baltimore gained 74 per cent. As to imports, Baltimore gained 67 per cent and Boston 62 per cent, with New York showing a 5 per cent loss.

At Battery Park the new vehicular tunnel to Brooklyn is well under way. The park itself has been extended into the Bay and a great depressed marginal way will run under it, connecting the East and West Sides. Along the Upper Hudson above Seventy-second Street the Henry Hudson Parkway and West Side improvements have been completed.

Along the East River north from Corlears Hook to Bellevue Hospital a park has been built to serve great public and quasi-public housing developments accommodating over 70,000 persons of low or moderate incomes, many of them veterans. Bellevue is being expanded into a great medical center with the aid of New York University. A little north of it the United Nations is building the World Capitol in place of a shambles, and still further north the East River Drive is flanked by small and large parks and a shorefront promenade extending to the Triborough Bridge.

Since 1934 forty-two miles of shorefront parkways and drives have been built and twenty-eight miles of fine esplanades for pedestrians who previously had no access except at infrequent street ends and occasional lookouts. The Harlem River Drive is about to be built and here commerce, parks and housing share the waterfront on the basis of a logical division and recognition of the just claims of each in a balanced city economy. Where the Harlem River becomes the Harlem Ship Canal the old Johnson Iron Works, cut off from the Bronx by canal construction, has been hitched on to Inwood Park in Manhattan and converted into a quay and boat harbor. More extensively used boat basins



have been established at 79th Street on the Hudson River and at Flushing Bay, Queens.

The Triborough Bridge, in its many ramifications and approaches, reclaimed all of Randalls and part of Wards Island, two miles of decaying East River shorefront in Manhattan, part of Astoria and the South Bronx, and opened to hundreds of thousands of persons living in close quarters on highly assessed slum property, acres of lawn and playfields hitherto close but inaccessible.

On the East River in Bronx and Queens, huge reclamation projects have built Orchard Beach, part of Ferry Point Park, Flushing Meadows and the Cross

Island Parkway, have laid the foundations for a new park out in the River in front of the new Astoria Houses, and at Sound-view Park, Bronx, have converted the garbage dump on Rikers Island into a nursery, and will soon see the beginning of the filling of Baxter Creek and the meadows back of it, which will ultimately be Ferry Point Beach.

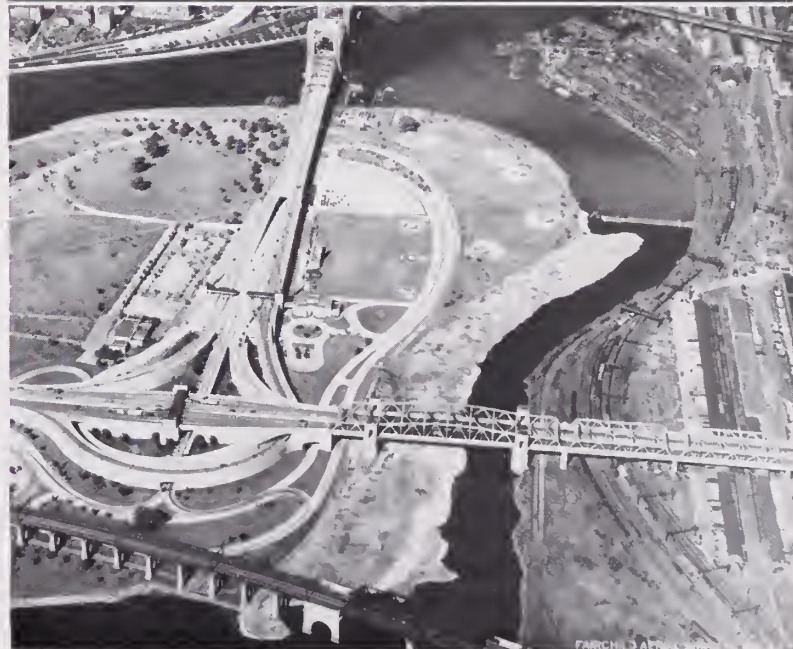
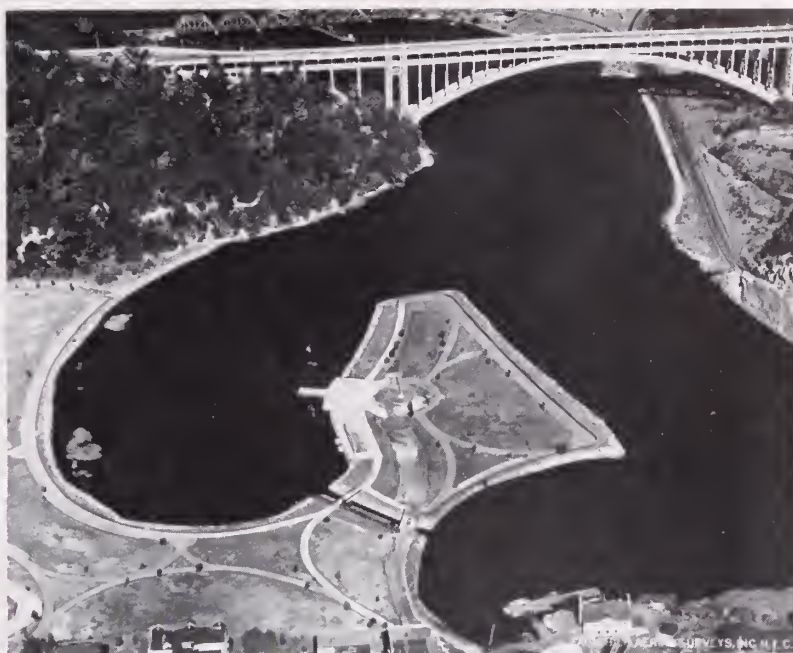
The park and reclamation forces work with fascinating labor, material and equipment. In filling open water, meadows and marshes, they make use of material including garbage and trash usually mixed with clean ashes which must be buried because there are presently not enough incinerators, and which is carried in by barge and truck and handled by intricate unloading and spreading machinery; dirt, rubble and spoil which comes from cellar excavations or is shaved off nearby hills

left WEST SIDE IMPROVEMENT . . . One of the most extensive reclamation projects in the City. The New York Central Railroad tracks were covered, the Henry Hudson Parkway constructed, marginal recreational areas with landscaping established, and a new seawall built. The Boat Basin at 79th Street is shown here.

right, above INWOOD HILL PARK AT THE NORTH END OF MANHATTAN . . . Showing the Henry Hudson Bridge and Harlem River Ship Canal. The boat basin was carved in the old river bed after the new Canal was dredged.

right, center GREAT KILLS PARK ON THE SOUTH SHORE OF STATEN ISLAND . . . Initial development of the 1256 acres for a large shorefront bathing area included the dredging of 3,000,000 yards of sand from the inner harbor. Much of the reclamation was accomplished by bringing in sanitation fill by barge and truck and covering it with a thick layer of sand. The inner basin makes an excellent harbor for small boats.

right, below TRIBOROUGH BRIDGE JUNCTION ON RANDALL'S ISLAND . . . Photo shows filling of the Bronx Kills between Randall's Island and the south shore of the Bronx. Completion of this filling operation will provide additional recreation area immediately adjacent to the Bronx shore to be made accessible by a pedestrian overpass across the railroad tracks.



and banks or scraped off farms and lugged in usually by truck at great cost; sand hydraulically pumped through pipes by great steam, Diesel or electric dredges and self-propelling sand boats operating alongside or at a distance. Every type and breed of heavy industry is engaged, and the same men are constantly turning up all over town as contractors pick up a job here and there. The saga of city waterfront reclamation is more interesting than anything the great open spaces can boast of.

In 1934 the United States Supreme Court decided that New York City could no longer run its barges out to sea and dump garbage and refuse there to litter all the surrounding shores. In the absence of incinerators, the City continued vast dumps at Rikers Island and Flushing Meadow and buried its offscourings in other places. The coming of the World's Fair ended the Flushing dump, and the hills of Rikers Island were used to fill in LaGuardia Airport. The City government still hesitated to spend the large sums necessary for incineration and thus large-scale reclamation became the life saver of the Sanitation Department.

People of the communities affected have rarely been enthusiastic about our reclamation projects while they were going on, and we have never been able to stay in one place very long without storms of protest—agitations which were promptly forgotten when public improvements rose above the filled areas and provided benefits which the public had not dreamed of before, and took for granted a week after they became available. It is true that at times our citizens had something to complain about. For example, when we were filling Orchard Beach in the Bronx, the floating boom, which admitted barges to the harbor being filled in, was left open one night by a careless watchman and the tide carried the unhappy leavings of New York up the Sound and all over the beaches and villas of Westchester. A considerable force of New York street cleaners was busy for the next ten days cleaning up the Westchester waterfront.

There were occasions also in the past when failure to plan and control dumps properly permitted flying paper, soot, and unpleasant odors to annoy the neighbors. The remaining filling areas are now, however, under excellent supervision. They are usually hemmed in by dikes which hide

the operations going on inside, and are marked only by concentrations of sea gulls, who act as scavengers and are going to be very unhappy when all the new incinerators are completed. The largest of these proposed incinerators are on the site of the old Gansevoort Market on the lower west side of Manhattan, and at Betts Avenue in Queens. They will take care of about half of all the burnable material and should be finished in 1949. The City has recently employed several of the most distinguished sanitary engineers in the country to help design its new incinerators, and as a result the most modern, efficient and economical equipment will be installed. As it looks now, we ought to have



all of our incinerators completed at just about the time our list of reclamation areas is exhausted.

The most serious remaining obstacle in the way of the success of the program, and the menace which casts a shadow over our existing beaches and waterfront is sewage pollution. This threat has been played down, minimized and dismissed by altogether too many agencies and official bodies. Only certain sections of the press have told anything like the whole truth about it, because the truth hurts our pride and our pockets. Here, briefly, are the facts and the only remedies:

The City Health and Park Departments as well the Interstate Sanitation

Commission have certified that our boundary waters are becoming dangerously polluted, that this danger can no longer be ignored, and that our program of purification interrupted by the war must be greatly accelerated. The Health Department advises that unless additional sewage treatment plants are promptly installed, the sewage from the growing population and new housing will cause increasing pollution, and that before long bathing at some of the City's beaches will have to be absolutely prohibited.

Recent analysis of the water at New York beaches shows counts at times running as high as 1000 coliform organisms per 100 cubic centimeters, considerably over the danger limit pretty generally agreed upon by health authorities throughout the nation. Coliform organisms are easily identifiable germs in the water, and

left REHABILITATION OF THE EAST RIVER SHOREFRONT . . . Section north of Williamsburg Bridge showing new parks along the River, the Franklin D. Roosevelt Drive and Jacob Riis and Lillian Wald Houses under construction. In the background are the great Metropolitan Life Stuyvesant Town and Peter Cooper Village.

right, above FRANKLIN D. ROOSEVELT DRIVE SHOWING EAST RIVER HOUSES IN THE VICINITY OF 103RD STREET . . . This is typical of the new residential areas which are being established along the City's waterfront. A pedestrian vertical lift bridge will be built across the Harlem River to connect the new Harlem houses and the crowded surrounding neighborhood with Wards Island (the tip of which is shown in the lower right-hand corner) where a large city park is being built adjacent to the reconstructed State hospital.

right, center FRANKLIN D. ROOSEVELT DRIVE IN THE VICINITY OF 96TH STREET . . . This former blighted strip of waterfront was transformed into an attractive drive and esplanade lined with small playgrounds. The docking rack takes care of tugboats with their tows waiting for transfers and changes of tides.

right, below SITE OF UNITED NATIONS . . . Between 42nd and 48th Sts. on Franklin D. Roosevelt Drive, East River waterfront.



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their number in a cubic centimeter of water is an accepted measure of the degree of pollution.

These warnings leave us with the tough alternatives of finding the huge capital funds to accelerate the present program for the construction of sewage treatment plants or closing our beaches in the near future, or risking serious infections and epidemics. In this dilemma only one choice is open to responsible officials. In the face of financial difficulties we must get funds outside the debt limit to finance the immediate construction of sewage treatment plants.

About one-third of the city area, shown double crosshatched on the accompanying map, is served by existing plants at Wards Island, Tallmans Island, Bowery Bay, City Island-Harts Island, Jamaica and Coney Island. The immediate program would construct plants, for which designs are practically complete, 26th Ward and Owls Head in Brooklyn, Rockaway in Queens, Hunts Point in the Bronx, and Port Richmond and Oakwood Beach in Richmond, totalling about \$57,000,000. These plants, to serve areas shown single crosshatched, will clear up badly polluted waters actively used for recreation, shell-fish beds, fishing, boating and shorefront residence. The remaining areas where new plants, estimated to cost \$116,000,000, can be put off until after 1949 are shown white.

Under this program all recreational waters indicated by the Interstate Sanitation Commission as Class A would be cleared of pollution and would be above reproach as bathing beach areas. The waters of the East River, Upper Bay and Hudson River would still receive untreated sewage. These waters are indicated by the Interstate Sanitation Commission as Class B non-recreational, where the elimination of pollution is ultimately necessary, but not urgent. Unquestionably, postponement of plants serving these areas will still leave undesirable conditions in the East and Hudson Rivers, but the reduced amount of raw sewage will result in so much greater dilution that the condition of all waters adjacent to the City will be improved.

With respect to pollution of the waters from the Jersey shores, the Interstate Sanitation Commission reports that only about 25% of the entire port problem can be traced to Jersey. The other 75% is strictly

New York City's responsibility. They certify also that Jersey communities have agreed to accelerate their treatment program, and are actually arranging to build and place additional plants in operation.

Funds for the plants to be immediately constructed and for their upkeep could be raised under existing law by sewer rents. The bonds become exempt from the City's debt limit one year after they are proved to be self-sustaining by the income from the rental. The actual charge would be based upon the amount of water consumed and would be collected in a manner similar to water charges. The total cost to the average small home-owner would be about \$1.40 per year.



An alternative method of financing would begin with the adoption of a constitutional amendment exempting sufficient funds from the City debt limit to carry out the program. This debt would still, of course, have to be supported by taxes. Moreover, legislation required to make effective such an amendment probably could not be enacted until 1950—and in the meantime plants could be built only out of existing capital funds and in competition with new schools, hospitals and other urgently needed improvements.

There has from time to time been a great deal of uninformed chatter about self-supporting sewage plants, brought about by the making of commercial ferti-

lizer. For numerous reasons this process is wholly impractical and uneconomical in New York. It is of course entirely possible, as an engineering and operating matter, to add to the disposal plant sufficient additional facilities to make fertilizer, but the cost is simply prohibitive, and this City has the immense advantage of off-shore waters into which the purified sludge can be dumped without danger or offense.

In bold, imaginative, continuous waterfront reclamation, the removal of houses, docks, ferries, yacht clubs, plants and institutions, coal pockets and all the other odd, miscellaneous obstructions, some in good repair, others decrepit or foul with age and neglect, not to speak of squatters in makeshift shelters, has never been an easy task, and the housing and building shortages have aggravated it. The older the city, the more entrenched

left **SOUTH BEACH, STATEN ISLAND . . .** Reclamation of the shorefront here was accomplished by hydraulic sand filling with a wide boardwalk promenade. Safe use of this beach is threatened by the polluted waters of the harbor. Here and elsewhere the City must accelerate its sewage treatment program for the protection of its shores.

right, above **TRANSFORMATION OF THE OLD CANARSIE PIER ON JAMAICA BAY . . .** This huge pier of a bygone era originally erected to take care of ocean liners but never used, has been rebuilt and landscaped by the Park Department to provide a number of recreation facilities which eventually will include swimming as well as boating, fishing and picnicking. This is part of the rehabilitation program for the Jamaica Bay shorefront. Emergency veterans housing in background.

right, center **QUEENSBRIDGE HOUSES . . .** The Queens end of the Queensborough Bridge is shown in the lower right-hand corner of the picture with a new bulkhead and park development constructed between it and the housing.

right, below **FLUSHING BAY BOAT BASIN . . .** Constructed as a marine approach to the World's Fair, this boat basin has now become a permanent part of Flushing Meadow Park. The Northern Boulevard shorefront, east of the basin, has been protected by a seawall and a landscaped promenade.



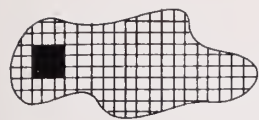
and powerful the vested interests, the stronger their political connections and the more sensitive the toes which must be stepped on, the greater must be the nerve and persistence of the public official charged with clearing the path for the big improvement. He must be prepared for the odium of being charged with ruthlessness, arbitrary destruction and even sadism. He must expect unfavorable comparison with heroes never identified who can do these things by mirrors, sleight of hand, magic and personal charm.

That is why so many of these fine plans in other cities are bursting the seams of files and library stacks, mute testimony to the ancient truth that it is not knowledge but action which is the great end and objective in life, and that for every dozen men with bright ideas there is at most one who can execute them.

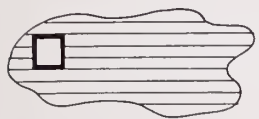


TALLMANS ISLAND SEWAGE TREATMENT PLANT, QUEENS . . .

Showing what a well-designed and landscaped plant looks like. Half the area is used as a city park and was designed with this in view. Several more of these plants under an accelerated program are needed in order to cleanse the City's polluted waters.



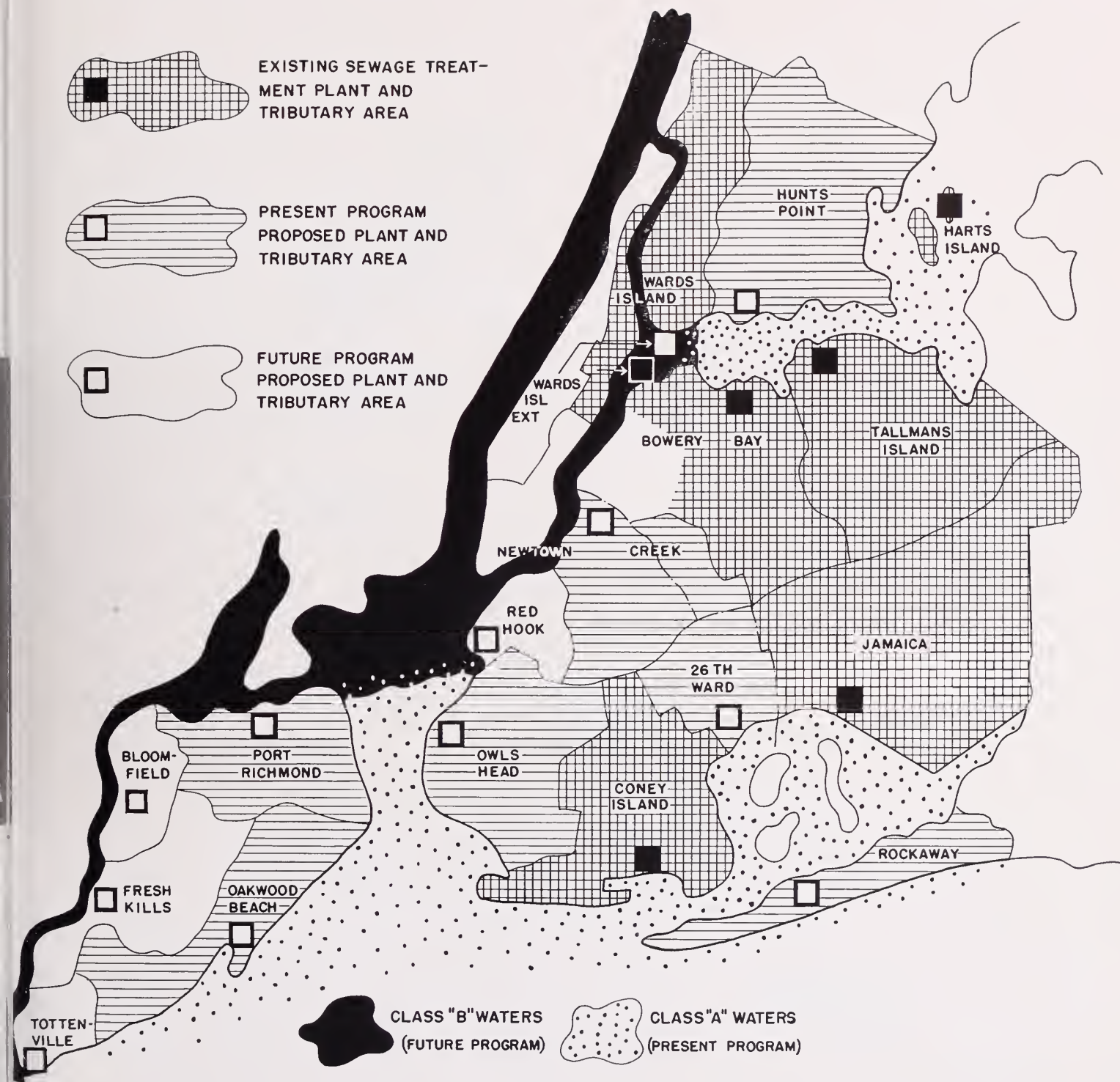
EXISTING SEWAGE TREAT-
MENT PLANT AND
TRIBUTARY AREA



PRESENT PROGRAM
PROPOSED PLANT AND
TRIBUTARY AREA




FUTURE PROGRAM
PROPOSED PLANT AND
TRIBUTARY AREA



CLASS "B" WATERS
(FUTURE PROGRAM)

CLASS "A" WATERS
(PRESENT PROGRAM)

**TRIBOROUGH
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----- BRONX WHITESTONE BRIDGE
----- TRIBOROUGH BRIDGE
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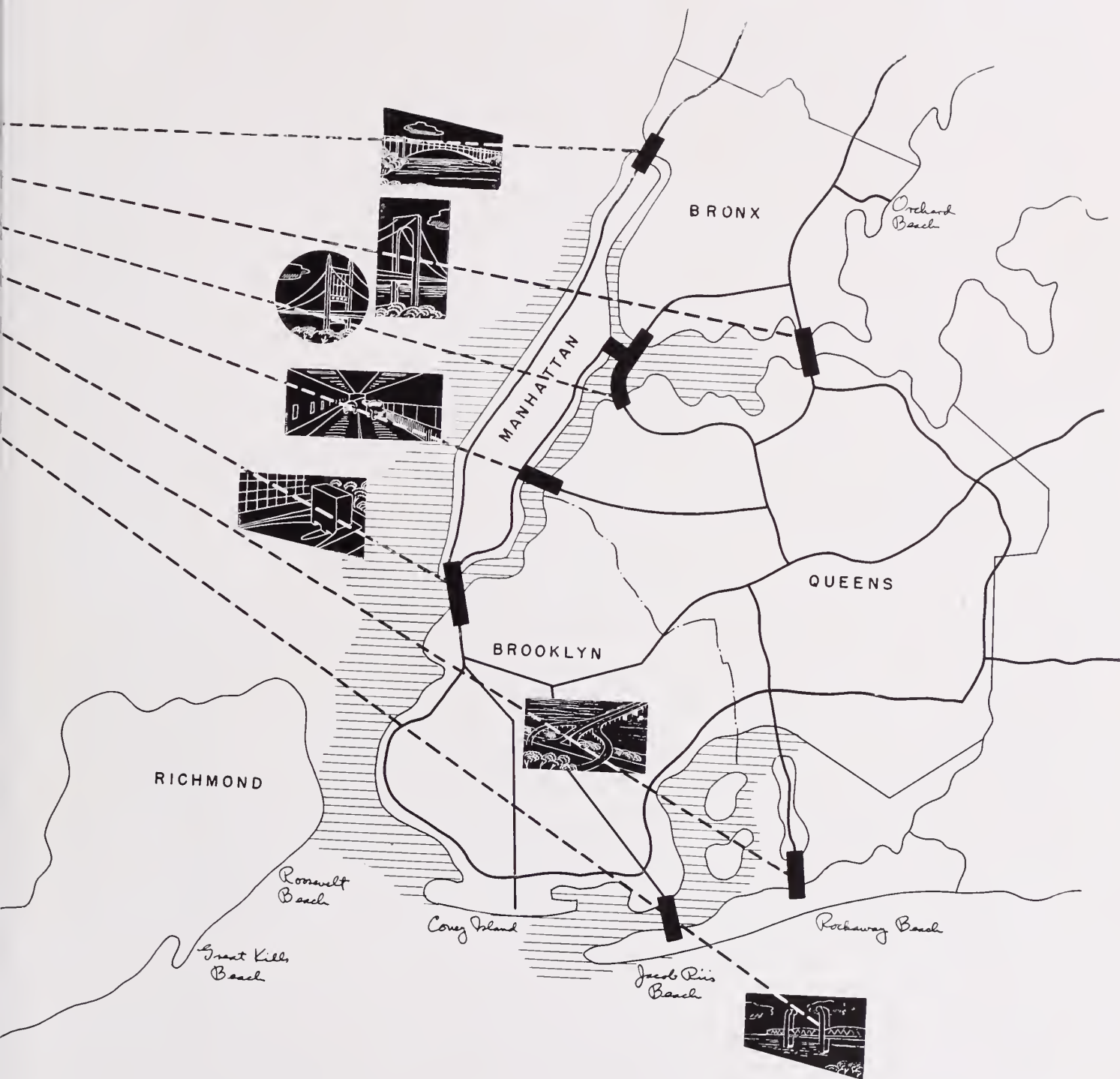
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